

Amendments to the Claims:

This listing of claims will replace all prior versions and listing of claims in the application.

Listing of Claims:

1-13. Canceled

14. (Currently Amended) An apparatus for decomposing fluorine compounds which contain at least one of PFC, HFC, SF₆ and NF₃, said apparatus comprising a single reactor having therein a fluorine compound decomposition catalyst for decomposing said fluorine compounds charged into said reactor in an upstream portion thereof and a harmful compound removing catalyst having a reaction temperature of 650-850°C for the decomposition of at least one of SO₂F₂ and N₂O, formed by said decomposition, charged into said reactor at a portion downstream of where said decomposition catalyst is charged into said reactor; a single heater for heating said catalysts in said reactor; a moisture supplying unit for adding moisture to said fluorine compound supplied to said reactor; an inert gas supplying unit for adding an inert gas as a diluent gas; and an oxygen supplying unit for adding oxygen or an oxygen-containing gas to a gas containing at least one of SO₂F₂ and N₂O formed by decomposition of said fluorine compounds.

15. (Canceled)

16. (Currently Amended) An apparatus for the-decomposing fluorine compounds as claimed in claim 14, wherein said harmful compound removing catalyst for the decomposition of at least one of SO₂F₂ and N₂O, contains at least one component selected from Pd, Pt, Cu, Mn, Fe, Co, Rh, Ir and Au, in the form of a metal or an oxide.

17. (Currently Amended) An apparatus for the-decomposing fluorine compounds as claimed in claim 14, wherein said harmful compound removing catalyst for the decomposition of at least one of SO₂F₂ and N₂O is selected from a catalyst of Pd and La carried on alumina, a catalyst of Pt and La carried on alumina, a catalyst of Rh and La carried on alumina, a catalyst of Au and La carried on alumina, a catalyst of Ir and La carried on alumina, a catalyst of Pd carried on alumina, a catalyst of Pt carried on alumina, a catalyst of Cu carried on alumina, a catalyst of Mn carried on alumina, a catalyst of Pd and W carried on titania and a catalyst of Co carried on alumina.

18. (Currently Amended) An apparatus for the-decomposing fluorine compounds as claimed in claim 14, further comprising a gas scrubbing tower for removing hydrogen fluoride and other water soluble components from a gas discharged from said reactor by contacting said gas with water or an alkaline aqueous solution.

19. (Currently Amended) An apparatus for decomposing fluorine compounds as claimed in according to claim 14, wherein said catalyst for decomposing fluorine compounds includes a combination of aluminum and nickel in the form of an oxide.

20. (Canceled)